US 20040220597A1

(19) United States

(12) Patent Application Publication (10) Pub. No.: US 2004/0220597 A1

Willis et al. (43) Pub. Date: Nov. 4, 2004

(54) METHOD AND APPARATUS FOR PERFORMING ANASTOMOSIS WITH EVERSION OF TISSUE EDGES AND JOINING OF EXPOSED INTIMA OF THE EVERTED TISSUE

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(21) Appl. No.: **10/855,604**

(22) Filed: **May 26, 2004**

Related U.S. Application Data

(60) Division of application No. 09/654,605, filed on Sep. 1, 2000, and which is a continuation-in-part of application No. 09/641,284, filed on Aug. 17, 2000, now Pat. No. 6,565,581, and which is a continuation-in-part of application No. 09/200,796, filed on Nov. 27, 1998, now Pat. No. 6,254,617, which is a division of application No. 08/714,615, filed on Sep. 16, 1996, now Pat. No. 5,868,763.

(60) Provisional application No. 60/152,001, filed on Sep. 1, 1999. Provisional application No. 60/150,033, filed on Aug. 20, 1999.

Publication Classification

(51) **Int. Cl.**[7] **A61B 17/08**

(52) **U.S. Cl.** **606/153**

(57) **ABSTRACT**

A ring for use in anastomosis. Preferably, the ring is integrally formed from metal, and includes a ring portion and tines and docking members that extend from the ring portion. The ring portion and tines are malleable, and preferably also the docking members are malleable. The ring portion and tines are malleable in the sense that once deformed from a first shape into a second shape, they will not relax back into the first shape from the second. To install the ring in a vessel with the ring portion extending around an incision or other orifice, the tines pierce the tissue around the orifice and are curled against an anvil. The action of curling the tines inverts the tissue near the orifice edges to expose the inside surface of the vessel or organ. Other aspects of the invention are a method and apparatus for installing an anastomosis ring in an incision or other orifice in a vessel or other organ, a method and apparatus for precisely aligning two anastomosis rings (each installed in an incision or other orifice of a different organ) and fastening the aligned rings together. The clips can be crimped onto the aligned rings, or they can be spring clips which are sprung onto the aligned rings to clamp the rings together by spring force. Also within the scope of the invention are crimping and spring clips for use in listening together two aligned anastomosis rings. In other embodiments, the invention is a method for performing an anastomosis by installing an anastomosis ring in an orifice in an organ, installing another anastomosis ring in an orifice in another organ, precisely aligning the two installed anastomosis rings, and fastening the aligned rings together.